

ABSTRACT

A LiFePO_4 carbon composite material is to be synthesized in a single phase satisfactorily to achieve superior cell characteristics. In preparing a cathode active material, starting materials for synthesis of a compound represented by the general formula Li_xFePO_4 , where $0 < x \leq 1$, are mixed, milled and a carbon material is added to the resulting mass at an optional time point in the course of mixing, milling and sintering. Li_3PO_4 , $\text{Fe}_3(\text{PO}_4)_2$ or its hydrates $\text{Fe}_3(\text{PO}_4)_2 \cdot n\text{H}_2\text{O}$, where n denotes the number of hydrates, are used as the starting materials for synthesis of Li_xFePO_4 . The temperature of a product from said sintering is set to 305°C or less when said product from said sintering is exposed to atmosphere. The oxygen concentration in a sintering atmosphere is set to 1012 ppm in volume or less at the time point of sintering.